

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DIRECTORATE GENERAL OF HUMAN SETTLEMENTS
MINISTRY OF PUBLIC WORKS
REPUBLIC OF INDONESIA

THE DETAILED DESIGN
FOR
URBAN DRAINAGE PROJECT
IN
THE CITY OF JAKARTA

FINAL REPORT

VOLUME III
DESIGN DRAWINGS

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DECEMBER 1997

NIPPON KOEI CO., LTD
TOKYO, JAPAN

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LIST OF DRAWINGS (1/4)

PLATE NO.	DWG NO.	TITLE	PLATE NO.	DWG NO.	TITLE
I GENERAL					
1	J-00-00-001	Location Map	51	J-10-20-205	Drainage Channel, Profile, Kamal Drainage Channel (Branch) (5/5)
2	J-00-00-002	Overall Plan	52	J-10-20-301	Drainage Channel, Profile, Tanjungan Drainage Channel (1/4)
3	J-00-00-003	Location Map of Bench Marks	53	J-10-20-302	Drainage Channel, Profile, Tanjungan Drainage Channel (2/4)
II DRAINAGE CHANNEL			54	J-10-20-303	Drainage Channel, Profile, Tanjungan Drainage Channel (3/4)
2.1 Plan			55	J-10-20-304	Drainage Channel, Profile, Tanjungan Drainage Channel (4/4)
4	J-10-10-001	Drainage Channel, Plan, Index Map	56	J-10-20-401	Drainage Channel, Profile, PIK Junction Drainage Channel (1/2)
5	J-10-10-101	Drainage Channel, Plan, Kamal Drainage Channel (Main) (1/7)	57	J-10-20-402	Drainage Channel, Profile, PIK Junction Drainage Channel (2/2)
6	J-10-10-102	Drainage Channel, Plan, Kamal Drainage Channel (Main) (2/7)	58	J-10-20-501	Drainage Channel, Profile, Gede/Bor Drainage Channel (1/2)
7	J-10-10-103	Drainage Channel, Plan, Kamal Drainage Channel (Main) (3/7)	59	J-10-20-502	Drainage Channel, Profile, Gede/Bor Drainage Channel (2/2)
8	J-10-10-104	Drainage Channel, Plan, Kamal Drainage Channel (Main) (4/7)	60	J-10-20-601	Drainage Channel, Profile, Saluran Cengkareng Drainage Channel (1/7)
9	J-10-10-105	Drainage Channel, Plan, Kamal Drainage Channel (Main) (5/7)	61	J-10-20-602	Drainage Channel, Profile, Saluran Cengkareng Drainage Channel (2/7)
10	J-10-10-106	Drainage Channel, Plan, Kamal Drainage Channel (Main) (6/7)	62	J-10-20-603	Drainage Channel, Profile, Saluran Cengkareng Drainage Channel (3/7)
11	J-10-10-107	Drainage Channel, Plan, Kamal Drainage Channel (Main) (7/7)	63	J-10-20-604	Drainage Channel, Profile, Saluran Cengkareng Drainage Channel (4/7)
12	J-10-10-201	Drainage Channel, Plan, Kamal Drainage Channel (Branch) (1/4)	64	J-10-20-605	Drainage Channel, Profile, Saluran Cengkareng Drainage Channel (5/7)
13	J-10-10-202	Drainage Channel, Plan, Kamal Drainage Channel (Branch) (2/4)	65	J-10-20-606	Drainage Channel, Profile, Saluran Cengkareng Drainage Channel (6/7)
14	J-10-10-203	Drainage Channel, Plan, Kamal Drainage Channel (Branch) (3/4)	66	J-10-20-607	Drainage Channel, Profile, Saluran Cengkareng Drainage Channel (7/7)
15	J-10-10-204	Drainage Channel, Plan, Kamal Drainage Channel (Branch) (4/4)	67	J-10-20-701	Drainage Channel, Profile, Meruya Area (1/4)
16	J-10-10-301	Drainage Channel, Plan, Tanjungan Drainage Channel (1/4)	68	J-10-20-702	Drainage Channel, Profile, Meruya Area (2/4)
17	J-10-10-302	Drainage Channel, Plan, Tanjungan Drainage Channel (2/4)	69	J-10-20-703	Drainage Channel, Profile, Meruya Area (3/4)
18	J-10-10-303	Drainage Channel, Plan, Tanjungan Drainage Channel (3/4)	70	J-10-20-704	Drainage Channel, Profile, Meruya Area (4/4)
19	J-10-10-304	Drainage Channel, Plan, Tanjungan Drainage Channel (4/4)	2.3 Cross Section		
20	J-10-10-401	Drainage Channel, Plan, PIK Junction Drainage Channel (1/3)	71	J-10-30-001	Drainage Channel, Typical Cross Sections (1/3)
21	J-10-10-402	Drainage Channel, Plan, PIK Junction Drainage Channel (2/3)	72	J-10-30-002	Drainage Channel, Typical Cross Sections (2/3)
22	J-10-10-403	Drainage Channel, Plan, PIK Junction Drainage Channel (3/3)	73	J-10-30-003	Drainage Channel, Typical Cross Sections (3/3)
23	J-10-10-501	Drainage Channel, Plan, Gede/Bor Drainage Channel (1/4)	74	J-10-30-101	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (1/16)
24	J-10-10-502	Drainage Channel, Plan, Gede/Bor Drainage Channel (2/4)	75	J-10-30-102	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (2/16)
25	J-10-10-503	Drainage Channel, Plan, Gede/Bor Drainage Channel (3/4)	76	J-10-30-103	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (3/16)
26	J-10-10-504	Drainage Channel, Plan, Gede/Bor Drainage Channel (4/4)	77	J-10-30-104	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (4/16)
27	J-10-10-601	Drainage Channel, Plan, Saluran Cengkareng Drainage Channel (1/6)	78	J-10-30-105	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (5/16)
28	J-10-10-602	Drainage Channel, Plan, Saluran Cengkareng Drainage Channel (2/6)	79	J-10-30-106	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (6/16)
29	J-10-10-603	Drainage Channel, Plan, Saluran Cengkareng Drainage Channel (3/6)	80	J-10-30-107	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (7/16)
30	J-10-10-604	Drainage Channel, Plan, Saluran Cengkareng Drainage Channel (4/6)	81	J-10-30-108	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (8/16)
31	J-10-10-605	Drainage Channel, Plan, Saluran Cengkareng Drainage Channel (5/6)	82	J-10-30-109	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (9/16)
32	J-10-10-606	Drainage Channel, Plan, Saluran Cengkareng Drainage Channel (6/6)	83	J-10-30-110	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (10/16)
33	J-10-10-701	Drainage Channel, Plan, Meruya Area (1/7)	84	J-10-30-111	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (11/16)
34	J-10-10-702	Drainage Channel, Plan, Meruya Area (2/7)	85	J-10-30-112	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (12/16)
35	J-10-10-703	Drainage Channel, Plan, Meruya Area (3/7)	86	J-10-30-113	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (13/16)
36	J-10-10-704	Drainage Channel, Plan, Meruya Area (4/7)	87	J-10-30-114	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (14/16)
37	J-10-10-705	Drainage Channel, Plan, Meruya Area (5/7)	88	J-10-30-115	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (15/16)
38	J-10-10-706	Drainage Channel, Plan, Meruya Area (6/7)	89	J-10-30-116	Drainage Channel, Cross Section, Kamal Drainage Channel (Main) (16/16)
39	J-10-10-707	Drainage Channel, Plan, Meruya Area (7/7)	90	J-10-30-201	Drainage Channel, Cross Section, Kamal Drainage Channel (Branch) (1/5)
2.2 Profile			91	J-10-30-202	Drainage Channel, Cross Section, Kamal Drainage Channel (Branch) (2/5)
40	J-10-20-101	Drainage Channel, Profile, Kamal Drainage Channel (Main) (1/7)	92	J-10-30-203	Drainage Channel, Cross Section, Kamal Drainage Channel (Branch) (3/5)
41	J-10-20-102	Drainage Channel, Profile, Kamal Drainage Channel (Main) (2/7)	93	J-10-30-204	Drainage Channel, Cross Section, Kamal Drainage Channel (Branch) (4/5)
42	J-10-20-103	Drainage Channel, Profile, Kamal Drainage Channel (Main) (3/7)	94	J-10-30-205	Drainage Channel, Cross Section, Kamal Drainage Channel (Branch) (5/5)
43	J-10-20-104	Drainage Channel, Profile, Kamal Drainage Channel (Main) (4/7)	95	J-10-30-301	Drainage Channel, Cross Section, Tanjungan Drainage Channel (1/9)
44	J-10-20-105	Drainage Channel, Profile, Kamal Drainage Channel (Main) (5/7)	96	J-10-30-302	Drainage Channel, Cross Section, Tanjungan Drainage Channel (2/9)
45	J-10-20-106	Drainage Channel, Profile, Kamal Drainage Channel (Main) (6/7)	97	J-10-30-303	Drainage Channel, Cross Section, Tanjungan Drainage Channel (3/9)
46	J-10-20-107	Drainage Channel, Profile, Kamal Drainage Channel (Main) (7/7)	98	J-10-30-304	Drainage Channel, Cross Section, Tanjungan Drainage Channel (4/9)
47	J-10-20-201	Drainage Channel, Profile, Kamal Drainage Channel (Branch) (1/5)	99	J-10-30-305	Drainage Channel, Cross Section, Tanjungan Drainage Channel (5/9)
48	J-10-20-202	Drainage Channel, Profile, Kamal Drainage Channel (Branch) (2/5)	100	J-10-30-306	Drainage Channel, Cross Section, Tanjungan Drainage Channel (6/9)
49	J-10-20-203	Drainage Channel, Profile, Kamal Drainage Channel (Branch) (3/5)	101	J-10-30-307	Drainage Channel, Cross Section, Tanjungan Drainage Channel (7/9)
50	J-10-20-204	Drainage Channel, Profile, Kamal Drainage Channel (Branch) (4/5)	102	J-10-30-308	Drainage Channel, Cross Section, Tanjungan Drainage Channel (8/9)
			103	J-10-30-309	Drainage Channel, Cross Section, Tanjungan Drainage Channel (9/9)
			104	J-10-30-401	Drainage Channel, Cross Section, PIK Junction Drainage Channel
			105	J-10-30-501	Drainage Channel, Cross Section, Gede/Bor Drainage Channel (1/3)
			106	J-10-30-502	Drainage Channel, Cross Section, Gede/Bor Drainage Channel (2/3)



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LIST OF DRAWINGS (2/4)

PLATE NO.	DWG NO.	TITLE	PLATE NO.	DWG NO.	TITLE
107	J-10-30-503	Drainage Channel, Cross Section, Gede/Bor Drainage Channel (3/3)	153	J-20-40-401	Channel Structures, Outlet, Gede/Bor Drainage Channel
108	J-10-30-601	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (1/11)	154	J-20-40-601	Channel Structures, Outlet, Meruya Area
109	J-10-30-602	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (2/11)	3.5 Open Culvert and Concrete Ditch		
110	J-10-30-603	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (3/11)	155	J-20-50-101	Channel Structures, Open Culvert for Saluran Cengkareng Drainage Channel
111	J-10-30-604	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (4/11)	156	J-20-50-102	Channel Structures, Concrete Ditch (1/2)
112	J-10-30-605	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (5/11)	157	J-20-50-103	Channel Structures, Concrete Ditch (2/2)
113	J-10-30-606	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (6/11)	IV DRAINAGE FACILITIES		
114	J-10-30-607	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (7/11)	4.1 General		
115	J-10-30-608	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (8/11)	158	J-30-00-001	Drainage Facilities, Drainage Area Map
116	J-10-30-609	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (9/11)	4.2 Sluiceway		
117	J-10-30-610	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (10/11)	159	J-30-10-101	Drainage Facilities, Sluiceway, Levee Earth Type Site (1/2)
118	J-10-30-611	Drainage Channel, Cross Section, Saluran Cengkareng Drainage Channel (11/11)	160	J-30-10-102	Drainage Facilities, Sluiceway, Levee Earth Type Site (2/2)
119	J-10-30-701	Drainage Channel, Cross Section, Meruya Area (1/5)	161	J-30-10-103	Drainage Facilities, Sluiceway, Levee Parapet Wall Type Site (1/2)
120	J-10-30-702	Drainage Channel, Cross Section, Meruya Area (2/5)	162	J-30-10-104	Drainage Facilities, Sluiceway, Levee Parapet Wall Type Site (2/2)
121	J-10-30-703	Drainage Channel, Cross Section, Meruya Area (3/5)	163	J-30-10-105	Drainage Facilities, Sluiceway, Revetment Type I Site
122	J-10-30-704	Drainage Channel, Cross Section, Meruya Area (4/5)	164	J-30-10-106	Drainage Facilities, Sluiceway, Revetment Type II Site (1/5)
123	J-10-30-705	Drainage Channel, Cross Section, Meruya Area (5/5)	165	J-30-10-107	Drainage Facilities, Sluiceway, Revetment Type II Site (2/5)
III CHANNEL STRUCTURES			166	J-30-10-108	Drainage Facilities, Sluiceway, Revetment Type II Site (3/5)
3.1 Levee			167	J-30-10-109	Drainage Facilities, Sluiceway, Revetment Type II Site (4/5)
124	J-20-10-001	Channel Structures, Levee, Typical Cross Sections	168	J-30-10-110	Drainage Facilities, Sluiceway, Revetment Type II Site (5/5)
3.2 Parapet Wall			169	J-30-10-111	Drainage Facilities, Sluiceway, Open Culvert/Concrete Ditch Site (1/2)
125	J-20-20-001	Channel Structures, Parapet Wall, Typical Cross Sections	170	J-30-10-112	Drainage Facilities, Sluiceway, Open Culvert/Concrete Ditch Site (2/2)
126	J-20-20-101	Channel Structures, Parapet Wall, Profile, Kamal Drainage Channel (Main) (1/2)	171	J-30-10-113	Drainage Facilities, Sluiceway, Concrete L-type Wall Site (1/4)
127	J-20-20-102	Channel Structures, Parapet Wall, Profile, Kamal Drainage Channel (Main) (2/2)	172	J-30-10-114	Drainage Facilities, Sluiceway, Concrete L-type Wall Site (2/4)
128	J-20-20-301	Channel Structures, Parapet Wall, Profile, Tanjungan Drainage Channel	173	J-30-10-115	Drainage Facilities, Sluiceway, Concrete L-type Wall Site (3/4)
129	J-20-20-601	Channel Structures, Parapet Wall, Profile, Saluran Cengkareng Drainage Channel (1/3)	174	J-30-10-116	Drainage Facilities, Sluiceway, Concrete L-type Wall Site (4/4)
130	J-20-20-602	Channel Structures, Parapet Wall, Profile, Saluran Cengkareng Drainage Channel (2/3)	175	J-30-10-201	Drainage Facilities, Sluiceway, Dimension Tables (1/2)
131	J-20-20-603	Channel Structures, Parapet Wall, Profile, Saluran Cengkareng Drainage Channel (3/3)	176	J-30-10-202	Drainage Facilities, Sluiceway, Dimension Tables (2/2)
3.3 Revetment			177	J-30-10-301	Drainage Facilities, Sluiceway, Reinforcing Bar Arrangement (1/5)
132	J-20-30-001	Channel Structures, Revetment, Typical Cross Sections	178	J-30-10-302	Drainage Facilities, Sluiceway, Reinforcing Bar Arrangement (2/5)
133	J-20-30-101	Channel Structures, Revetment, Profile, Kamal Drainage Channel (Main) (1/5)	179	J-30-10-303	Drainage Facilities, Sluiceway, Reinforcing Bar Arrangement (3/5)
134	J-20-30-102	Channel Structures, Revetment, Profile, Kamal Drainage Channel (Main) (2/5)	180	J-30-10-304	Drainage Facilities, Sluiceway, Reinforcing Bar Arrangement (4/5)
135	J-20-30-103	Channel Structures, Revetment, Profile, Kamal Drainage Channel (Main) (3/5)	181	J-30-10-305	Drainage Facilities, Sluiceway, Reinforcing Bar Arrangement (5/5)
136	J-20-30-104	Channel Structures, Revetment, Profile, Kamal Drainage Channel (Main) (4/5)	182	J-30-10-401	Drainage Facilities, Sluiceway, Pile Arrangement (1/2)
137	J-20-30-105	Channel Structures, Revetment, Profile, Kamal Drainage Channel (Main) (5/5)	183	J-30-10-402	Drainage Facilities, Sluiceway, Pile Arrangement (2/2)
138	J-20-30-201	Channel Structures, Revetment, Profile, Kamal Drainage Channel (Branch) (1/4)	184	J-30-10-501	Drainage Facilities, Sluiceway, Saluran Cengkareng Drainage Channel, Outlet Sluiceway (1/4)
139	J-20-30-202	Channel Structures, Revetment, Profile, Kamal Drainage Channel (Branch) (2/4)	185	J-30-10-502	Drainage Facilities, Sluiceway, Saluran Cengkareng Drainage Channel, Outlet Sluiceway (2/4)
140	J-20-30-203	Channel Structures, Revetment, Profile, Kamal Drainage Channel (Branch) (3/4)	186	J-30-10-503	Drainage Facilities, Sluiceway, Saluran Cengkareng Drainage Channel, Outlet Sluiceway (3/4)
141	J-20-30-204	Channel Structures, Revetment, Profile, Kamal Drainage Channel (Branch) (4/4)	187	J-30-10-504	Drainage Facilities, Sluiceway, Saluran Cengkareng Drainage Channel, Outlet Sluiceway (4/4)
142	J-20-30-301	Channel Structures, Revetment, Profile, Tanjungan Drainage Channel	4.3 Gate and Trashrack		
143	J-20-30-501	Channel Structures, Revetment, Profile, Gede/Bor Drainage Channel (1/2)	188	J-30-20-001	Drainage Facilities, Slide Gate, General Arrangement 2.3m x 2.3m
144	J-20-30-502	Channel Structures, Revetment, Profile, Gede/Bor Drainage Channel (2/2)	189	J-30-20-002	Drainage Facilities, Slide Gate, General Arrangement 1.5m x 1.3m Levee Type R (II)
145	J-20-30-601	Channel Structures, Revetment, Profile, Saluran Cengkareng Drainage Channel (1/7)	190	J-30-20-003	Drainage Facilities, Slide Gate, General Arrangement 1.3m x 1.3m Levee Type L (E)
146	J-20-30-602	Channel Structures, Revetment, Profile, Saluran Cengkareng Drainage Channel (2/7)	191	J-30-20-004	Drainage Facilities, Slide Gate, General Arrangement 1.3m x 1.3m Levee Type O/C
147	J-20-30-603	Channel Structures, Revetment, Profile, Saluran Cengkareng Drainage Channel (3/7)	192	J-30-20-005	Drainage Facilities, Slide Gate, General Arrangement 1.2m x 1.2m Levee Type L (E)
148	J-20-30-604	Channel Structures, Revetment, Profile, Saluran Cengkareng Drainage Channel (4/7)	193	J-30-20-006	Drainage Facilities, Slide Gate, General Arrangement 1.2m x 1.2m Levee Type L (P)
149	J-20-30-605	Channel Structures, Revetment, Profile, Saluran Cengkareng Drainage Channel (5/7)	194	J-30-20-007	Drainage Facilities, Slide Gate, General Arrangement 1.2m x 1.2m Levee Type R (II)
150	J-20-30-606	Channel Structures, Revetment, Profile, Saluran Cengkareng Drainage Channel (6/7)	195	J-30-20-008	Drainage Facilities, Slide Gate, General Arrangement 1.1m x 1.1m Levee Type L (E)
151	J-20-30-607	Channel Structures, Revetment, Profile, Saluran Cengkareng Drainage Channel (7/7)	196	J-30-20-009	Drainage Facilities, Slide Gate, General Arrangement 1.1m x 1.1m Levee Type L (P)
3.4 Outlet Facilities			197	J-30-20-010	Drainage Facilities, Slide Gate, General Arrangement 1.1m x 1.1m Levee Type C (D)
152	J-20-40-301	Channel Structures, Outlet, PIK Junction Drainage Channel	198	J-30-20-011	Drainage Facilities, Slide Gate, General Arrangement 1.1m x 1.1m Levee Type R (II)

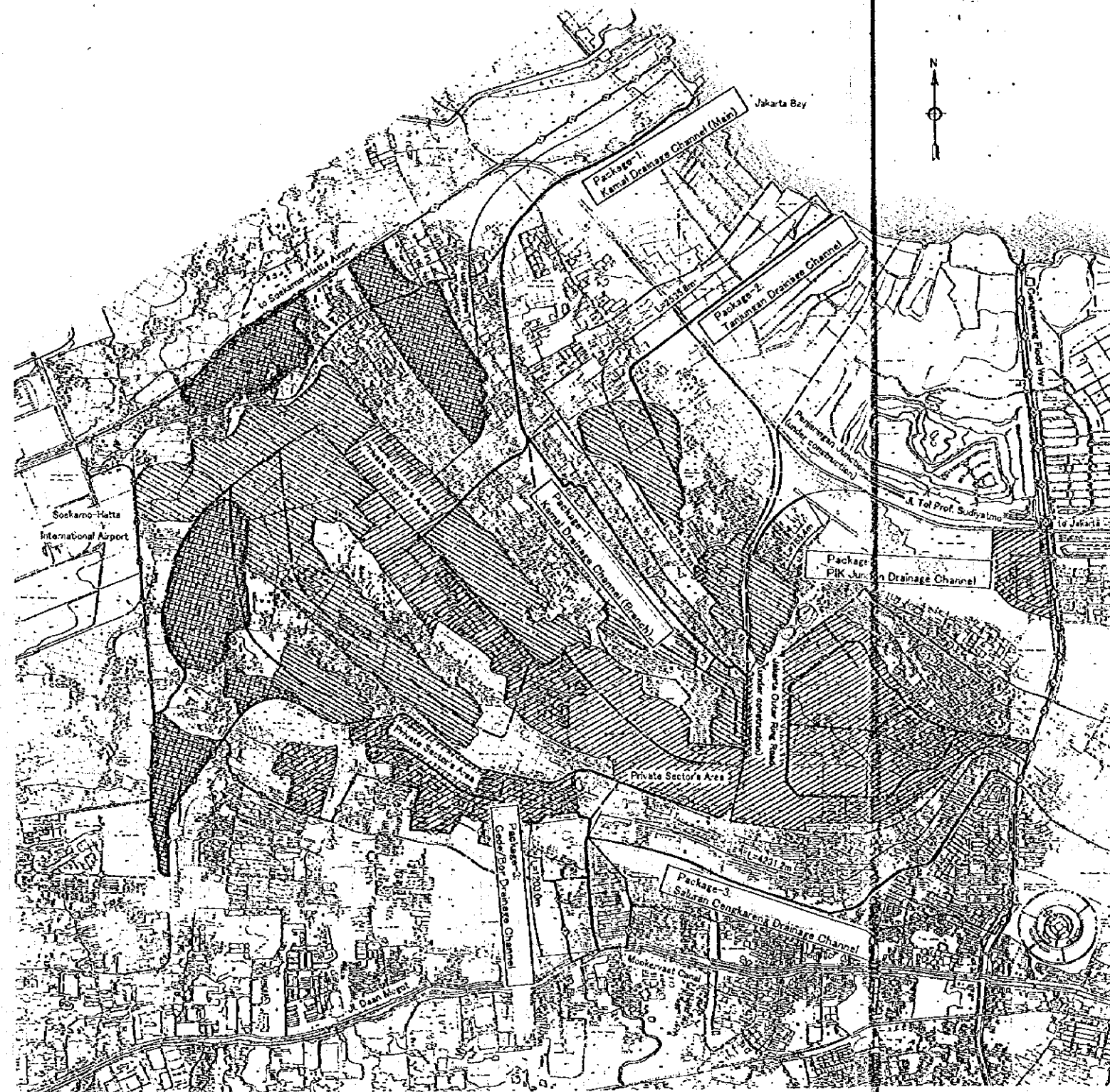
LIST OF DRAWINGS (3/4)

PLATE NO.	DWG NO.	TITLE	PLATE NO.	DWG NO.	TITLE
199	J-30-20-012	Drainage Facilities, Slide Gate, General Arrangement 1.0m x 1.0m Levee Type L (E)	245	J-70-10-303	General Plan of Bridge BTM 4 (TM5)
200	J-30-20-013	Drainage Facilities, Slide Gate, General Arrangement 1.0m x 1.0m Levee Type L (P)	246	J-70-10-304	General Plan of Bridge BTM 5 (TM6)
201	J-30-20-014	Drainage Facilities, Slide Gate, General Arrangement 1.0m x 1.0m Levee Type C (L)	247	J-70-10-305	General Plan of Bridge BTM 6 (N/N)
202	J-30-20-015	Drainage Facilities, Slide Gate, General Arrangement 1.0m x 1.0m Levee Type R (II)	248	J-70-10-501	General Plan of Bridge BGM 1 (GM1-2)
203	J-30-20-016	Drainage Facilities, Slide Gate, General Arrangement 0.9m x 0.9m Levee Type R (I)	249	J-70-10-502	General Plan of Bridge BGM 2 (GM1-4)
204	J-30-20-017	Drainage Facilities, Slide Gate, General Arrangement 0.8m x 0.8m Levee Type L (E)	250	J-70-10-503	General Plan of Bridge BGM 3 (GM5)
205	J-30-20-018	Drainage Facilities, Slide Gate, General Arrangement 0.8m x 0.8m Levee Type C (L)	251	J-70-10-504	General Plan of Bridge BGM 4 (GM6)
206	J-30-20-019	Drainage Facilities, Slide Gate, General Arrangement 0.8m x 0.8m Levee Type R (I), R (II)	252	J-70-10-505	General Plan of Bridge BGM 5 (GM7)
207	J-30-20-020	Drainage Facilities, Slide Gate, General Arrangement 0.7m x 0.7m Levee Type L (P)	253	J-70-10-506	General Plan of Bridge BGM 6 (GM8-1)
208	J-30-20-021	Drainage Facilities, Flap Gate, General Arrangement 0.4m x 0.4m Levee Type R (II)	254	J-70-10-507	General Plan of Bridge BGM 7 (GM9)
209	J-30-20-022	Drainage Facilities, Flap Gate, General Arrangement 0.4m x 0.4m Levee Type C (D), C (L)	255	J-70-10-508	General Plan of Bridge BGM 8 (GM10-2)
210	J-30-20-023	Drainage Facilities, Timber Stoplog, General Arrangement Clear Span 2.3m	256	J-70-10-509	General Plan of Bridge BGM 9 (GM11-2)
211	J-30-20-024	Drainage Facilities, Timber Stoplog, General Arrangement Clear Span 1.5m, 1.3m, 1.2m, 1.1m, 1.0m, 0.9m, 0.8m, 0.7m, 0.4m	257	J-70-10-510	General Plan of Bridge BGM 10 (GM13-1)
212	J-30-20-025	Drainage Facilities, Trashrack, General Arrangement	258	J-70-10-601	General Plan of Bridge BCM 2 (CM3)
213	J-30-20-026	Drainage Facilities, Mesh Cover, General Arrangement	259	J-70-10-602	General Plan of Bridge BCM 3 (CM6)
4.4 Others			260	J-70-10-603	General Plan of Bridge BCM 4 (CM7)
214	J-30-30-101	Drainage Facilities, Drainage Canal	261	J-70-10-604	General Plan of Bridge BCM 5 (CM9)
215	J-30-40-001	Drainage Facilities, Miscellaneous Details	262	J-70-10-605	General Plan of Bridge BCM 6 (CM11)
V BRIDGE AND APPROACH ROAD			263	J-70-10-606	General Plan of Bridge BCM 7 (CM13)
5.1 General			264	J-70-10-607	General Plan of Bridge BCM 8 (CM15)
216	J-60-00-001	Location Map of Bridges	265	J-70-10-608	General Plan of Bridge BCM 9 (CM16)
5.2 Bridge			266	J-70-10-609	General Plan of Bridge BCM 10 (CM17-1)
217	J-70-10-101	General Plan of Bridge BKM 1 (KM2)	267	J-70-10-610	General Plan of Bridge BCM 11 (CM18-4)
218	J-70-10-102	General Plan of Bridge BKM 3 (KM11-1)	268	J-70-10-611	General Plan of Bridge BCM 12 (CM19-1)
219	J-70-10-103	General Plan of Bridge BKM 4 (KM15)	269	J-70-10-612	General Plan of Bridge BCM 13 (CM20)
220	J-70-10-104	General Plan of Bridge BKM 5 (KM17-2)	270	J-70-10-613	General Plan of Bridge BCM 14 (CM22)
221	J-70-10-105	General Plan of Bridge BKM 6 (KM19)	271	J-70-10-701	General Plan of In-Situ Bridge
222	J-70-10-106	General Plan of Bridge BKM 7 (KM20)	272	J-70-10-702	General Plan of Box Culvert Plan
223	J-70-10-107	General Plan of Bridge BKM 8 (KM21-2)	273	J-70-10-703	General Plan of Box Culvert Profile-1
224	J-70-10-108	General Plan of Bridge BKM 10 (KM22-4)	274	J-70-10-704	General Plan of Box Culvert Profile-2
225	J-70-10-109	General Plan of Bridge BKM 11 (KM23-2)	275	J-70-20-001	Detail of Main Girder-1
226	J-70-10-201	General Plan of Bridge BKE 1 (KE1-1)	276	J-70-20-002	Detail of Main Girder-2
227	J-70-10-202	General Plan of Bridge BKE 2 (KE2)	277	J-70-20-003	Detail of Main Girder-3
228	J-70-10-203	General Plan of Bridge BKE 3 (KE3-2)	278	J-70-20-004	Detail of Main Girder-4
229	J-70-10-204	General Plan of Bridge BKE 4 (KE4)	279	J-70-30-001	Side Wall/Rail, Walkway and Guardrail
230	J-70-10-205	General Plan of Bridge BKE 5 (KE5)	280	J-70-30-002	Bearing
231	J-70-10-206	General Plan of Bridge BKE 6 (KE6)	281	J-70-30-003	Expansion
232	J-70-10-207	General Plan of Bridge BKE 7 (KE7)	282	J-70-30-004	Drainage
233	J-70-10-208	General Plan of Bridge BKE 8 (KE9)	283	J-70-40-001	Re-Bar Arrangement of Pier-1
234	J-70-10-209	General Plan of Bridge BKE 9 (KE10-1)	284	J-70-40-002	Re-Bar Arrangement of Pier-2
235	J-70-10-210	General Plan of Bridge BKE 10 (KE12)	285	J-70-40-003	Re-Bar Arrangement of Abutment-1
236	J-70-10-211	General Plan of Bridge BKE 11 (KE14)	286	J-70-40-004	Re-Bar Arrangement of Abutment-2
237	J-70-10-212	General Plan of Bridge BKE 13 (KE15-2)	287	J-70-40-005	Re-Bar Arrangement of RC Side Ditch
238	J-70-10-213	General Plan of Bridge BKE 14 (KE16)	288	J-70-40-006	Re-Bar Arrangement of Box Culvert-1
239	J-70-10-214	General Plan of Bridge BKE 15 (KE17-1)	289	J-70-40-007	Re-Bar Arrangement of Box Culvert-2
240	J-70-10-215	General Plan of Bridge BKE 16 (KE18)	290	J-70-50-001	Approach Cushion Slab and PC-pile
241	J-70-10-216	General Plan of Bridge BKE 17 (KE19)	291	J-70-50-002	Pile Arrangement-1
242	J-70-10-217	General Plan of Bridge BKE 18 (KE20-1)	292	J-70-50-003	Pile Arrangement-2
243	J-70-10-301	General Plan of Bridge BTM 1 (TM1)	293	J-70-50-004	Pile Arrangement-3
244	J-70-10-302	General Plan of Bridge BTM 3 (TM3-4)	5.3 Approach Road		
			294	J-80-10-001	Approach Road-1 (BKM 1,3,4,5,6,7,8,9)

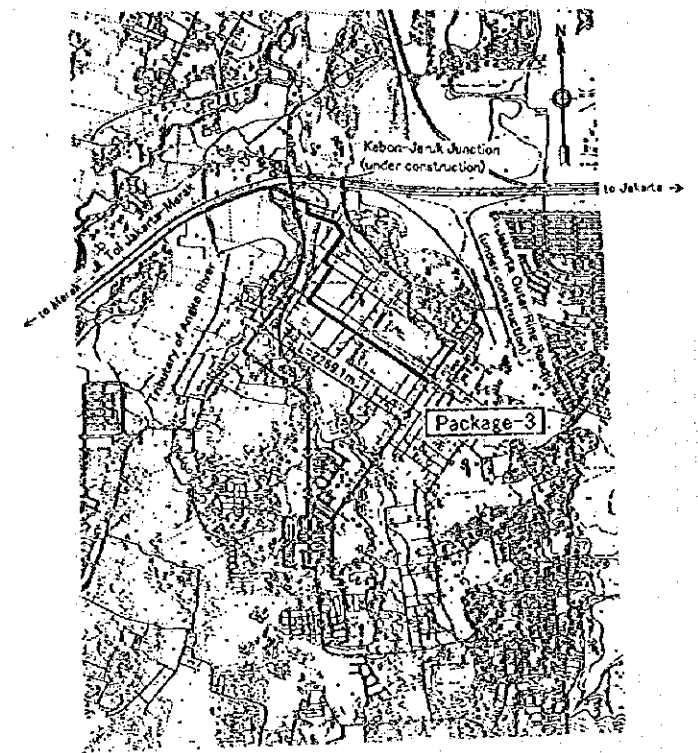
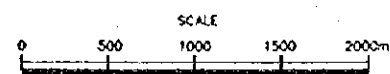
LIST OF DRAWINGS (4/4)

PLATE NO.	DWG NO.	TITLE	PLATE NO.	DWG NO.	TITLE
295	J-80-10-002	Approach Road-2 (BKM 10,11, BKE 1,2,3,4,5,6)			
296	J-80-10-003	Approach Road-3 (BKE 7,8,9,10,11,13,14,15)			
297	J-80-10-004	Approach Road-4 (BKE 16,17,18,19,20 BTM 1,3,4)			
298	J-80-10-005	Approach Road-5 (BTM 5, BCM 1,2,3,4,5,6,7)			
299	J-80-10-006	Approach Road-6 (BCM 8,9,10,11,12,13,14)			
300	J-80-10-007	Approach Road-7 (BGM 1,2,3,4,5,6,7,8)			
301	J-80-10-008	Approach Road-8 (BGM 9,10)			
302	J-80-10-009	Subsidiary Work of Access Road			
5.4 In Situ Slab Bridge					
303	J-90-10-001	In-Situ Slab Bridge			
VI OTHERS					
304	J-95-00-001	Construction Time Schedule, Package 1			
305	J-95-00-002	Construction Time Schedule, Package 2			
306	J-95-00-003	Construction Time Schedule, Package 3			
307	J-95-10-001	Location Map of Borrow Area and Spoil Bank			
308	J-95-20-001	Location Map of Contractor's Temporary Yard			
309	J-95-20-002	General Layout Plan of Contractor's Temporary Yard			
310	J-95-30-101	Temporary Relocation Road and Bridge in Kamal Drainage Channel (Main)			
311	J-95-30-102	Temporary Relocation Road and Bridge in Kamal Drainage Channel (Branch)			
312	J-95-30-201	Temporary Relocation Road and Bridge in Tanjungan Drainage Channel			
313	J-95-30-401	Temporary Relocation Road and Bridge in Gede/Bor Drainage Channel			
314	J-95-30-501	Temporary Relocation Road and Bridge in Saluran Cengkareng Drainage Channel			
315	J-95-40-101	Temporary Works for Construction of Bridge with Piers in Kamal Drainage Channel (Main)			
316	J-95-50-501	Temporary Works for Culvert Construction in Saluran Cengkareng Drainage Channel			

I GENERAL



CENGKARENG WEST AREA



MERUYA AREA

SUMMARY OF DRAINAGE CHANNEL IMPROVEMENT


	Name of Drainage Channel	Drainage Channel (m)	Shiceway (sites)	Bridge/Culvert (sites)
Package-1	Kamal (Main)	4452.9	15	9
	Kamal (Branch)	2754.7	8	10
Package-2	Tanjung	2535.8	7	5
	PIK Junction	765.4	1	4
Package-3	Gede/Bor	1203.0	5	13
	Saluran Cengkareng	4231.2	15	10
	Meruya	2269.1	0	16

LEGEND

- : Project boundary
- : Boundary of drainage area
- : Drainage channel/design stretch in the project
- : Drainage channel/already constructed
- : Drainage channel/to be constructed by private sector
- [Hatched Box] : Area already aquired by private sector
- [Cross-hatched Box] : Swampy/depression areas already aquired by private sector
- [Dotted Box] : Paddy field

		PREPARED.....	MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF HUMAN SETTLEMENTS	TITLE OF DRAWING	APPROVED
		CHECKED.....		OVERALL PLAN	
		SUBMITTED.....			
REFERENCE	NO.	DATE.....	JAPAN INTERNATIONAL COOPERATION AGENCY THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT IN THE CITY OF JAKARTA	DWG NO. J-00-00-002	DATE

SCALE



0 500 1000 1500 2000m



LIST OF BENCH MARKS

Branch Mark No.	Elevation (FTG m)	Remarks	GPS Point No.	Coordinates		Mileage (mi)	Remarks	Branch Mark No.	Elevation (FTG m)	Remarks	GPS Point No.	Coordinates		Height (ft)	Remarks
				North (m)	East (m)							North (m)	East (m)		
Barrel Area															
PP. 101A	1243	Rev	GPS 1008	9328.08742	826.43134	0.06	Ref	Sakran Conflagration Area	DTK 294	2350	Rev				
PP. 103A	8932	Rev	GPS 2038	9328.30783	888.95312	2.22		M0004	2432	Ext					
PP. 1295B	9014	Rev	GPS 2038	9328.78800	888.97800	2.80		M0007	1547	Ext					
PP. 701	1881	Rev	GPS 1008A	9328.95217	826.17247	0.10		M0008	6889	Ext					
PP. 701	2254	Rev						PA Junction Area							
PP. 1295B	3140	Rev						M0028	1548	Ext	GPS 2027	9321.93508	881.43331	8.18	
PP. 1281B	2140	Rev						M0010	1848	Ext					
PP. 1295B	2282	Rev						M0014	2074	Ext					
PP. 1300B	2322	Rev						M0018	4850	Ext					
PP. 718	3192	Rev						PA Junction Area							
DH. 301	3515	Rev						PP. 722A	2647	Rev	GPS 2028	9322.26124	881.64237	1.95	
DTK 258	3119	Rev						DH. 127	9026	Rev	GPS W1-1-2	9323.24719	881.87800	-0.21	Adj
BK. 01	1760	Rev						M0021	1832	Ext					
BK. 08	8841	Rev						Manny Area							
PP. 1001	1874	Ext						PP. 1008B	11588	Rev	GPS 2014	9316.87783	881.15841	0.30	
06022	1879	Ext						DTK 354	10064	Rev	GPS 2013	9314.87618	881.38442	10.87	
06043	2178	Ext						M0022	11394	Ext					
06017	8501B	Ext						Chowder							
	3220	Ext						TTG 376	8144	Rev	GPS 1002	9316.81272	888.52804	2.54	Ref
Tr. Swamp Area															
TTG 376 (PP. 143)			GPS W1-1-1	9323.24431	881.59020	-0.52	Rev	DTK 375	8503	Rev	GPS 1009	9316.74317	881.12274	1.00	Ref
PP. 107A	0712	Rev						PP. 100A	6142	Rev	GPS 1008	9322.25489	884.74185	0.82	
DH. 835	1024	Rev						PP. 12C25	2345	Rev	GPS 1005A	9316.82224	881.06800	1.82	
DH. 704	2472	Rev						PP. 814	0312	Rev	GPS 1006A	9321.92843	884.05806	0.16	
DTK 258	6402	Rev						PP. 347A	4152	Rev	GPS W2-1B	9314.25514	881.78387	9.18	Rev
DTK 258	6914	Rev						PP. 785	2454	Rev	GPS W2-2B	9314.81889	887.85976	7.80	Rev
040-1	0013	Ext						PP. 767	3027	Rev					
99012 (BATA3)	8918	Ext						PP. 822B	6452	Rev					
96027 (306, 2)	1811	Rev						PP. 812B	8774	Rev					
Gravel Bar Area															
PP. 730B	82	Rev	GPS 2038	9328.78780	887.96130	3.72		GSSP 1002	4603	Rev					
DH. 1082	8219	Rev	GPS 2047	9321.59054	418.11723	4.10		DH. 361	4780	Rev					
DH. 1187	2350	Rev						DH. 321	5918	Rev					
DH. 580	4332	Rev						DTK 372	4880	Rev					
BK. 08	8304	Rev						CP 6	2418	Rev					
								8500A	2898	Ext					
								863241	4194	Ext					
								863241 (PP. 143)							

Note: * Height of GPS points is indirect level to calculated using the earth ellipsoid (WGS-84)

Re: Recovered point

Ref: Reference point

Est : Established point
Adj : Additional point

[illegible]

LEGEND

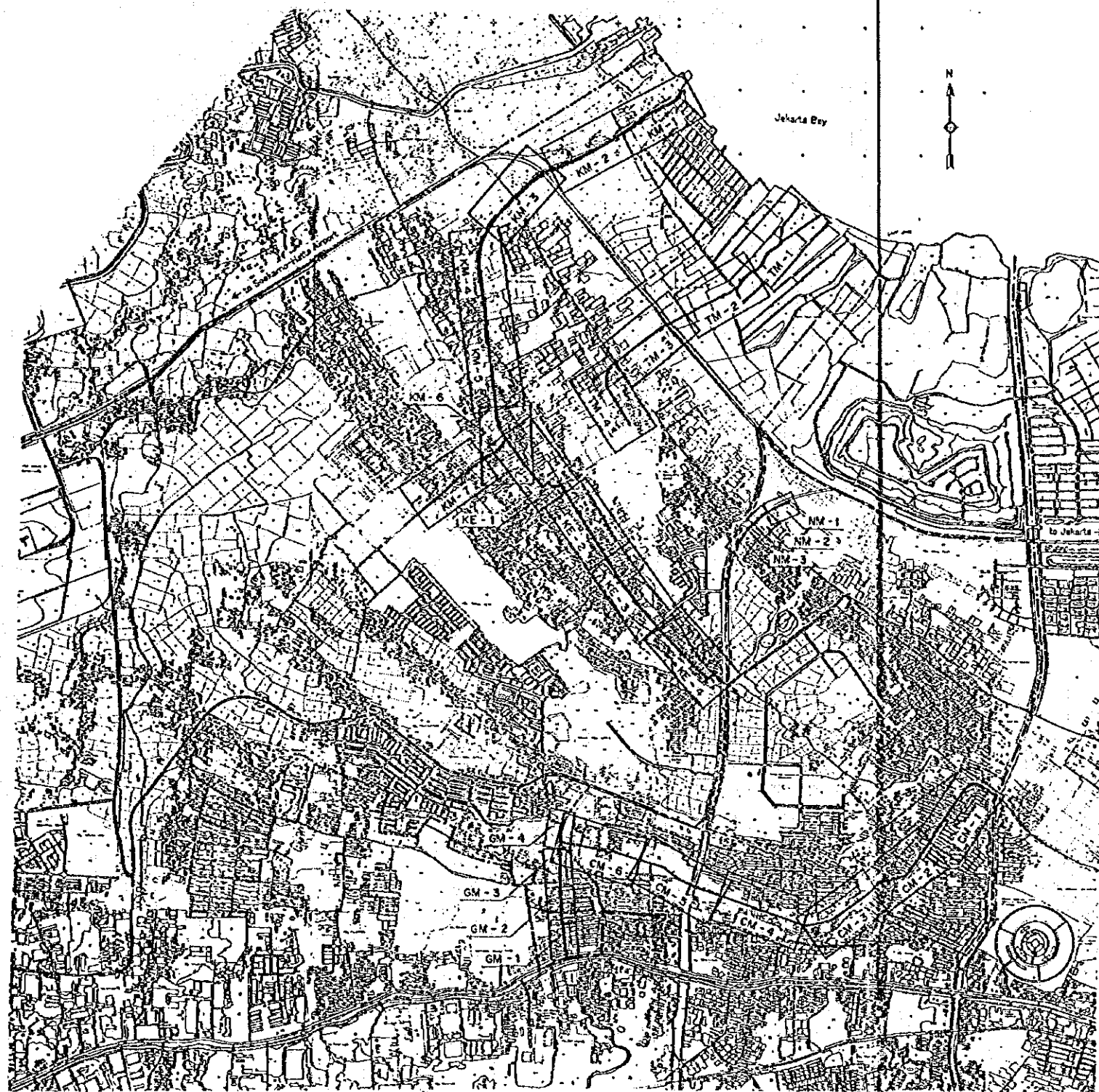
Recovered Bench Marks

A Established Bench Marks
 A OPS Print

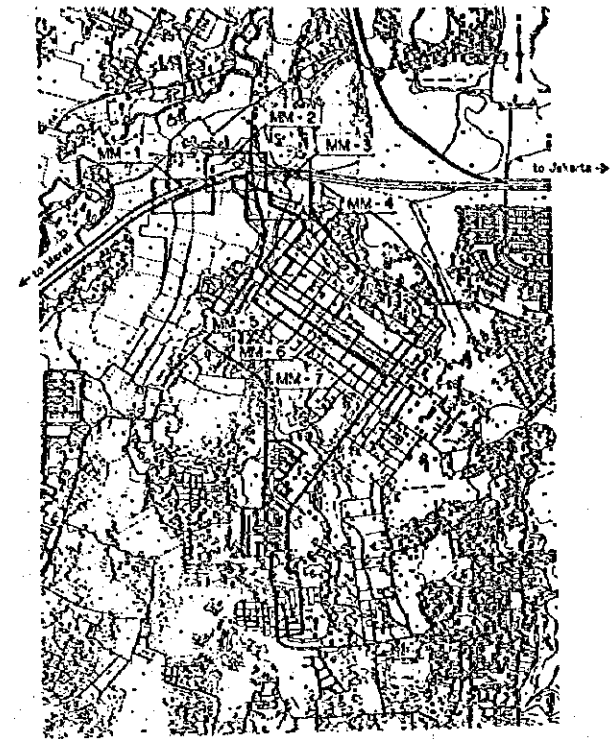
Q. Q. 3. Point

		PREPARED.....	MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF HUMAN SETTLEMENTS	TITLE OF DRAWING	APPROVED
		CHECKED.....		LOCATION MAP OF BENCH MARKS	
		SUBMITTED.....			
REFERENCE	DWG. NO.	DATE.....	JAPAN INTERNATIONAL COOPERATION AGENCY THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT IN THE CITY OF JAKARTA	DWG NO. J-00-00-003	DATE

II DRAINAGE CHANNEL



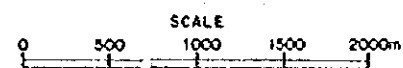
CENGKARENG WEST AREA



MERUYA AREA

LEGEND

- : Project boundary
- : Boundary of drainage area
- : Drainage channel
- KM : Kamal drainage channel (main)
- KE : Kamal drainage channel (branch)
- TM : Tanjung drainage channel
- NM : PJK Junction drainage channel
- GM : Gede/Bor drainage channel
- CM : Seluran Cengkareng drainage channel
- MM : Meruya area



REFERENCE	DWG. NO.	DATE	PREPARED.....	CHECKED.....	SUBMITTED.....	MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF HUMAN SETTLEMENTS	TITLE OF DRAWING DRAINAGE CHANNEL, PLAN, INDEX MAP	APPROVED
						JAPAN INTERNATIONAL COOPERATION AGENCY THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT IN THE CITY OF JAKARTA	DWG NO. J-10-10-001	

JAKARTA BAY

K1

K1

Channel Improvement $\nabla = 4,462.9\text{m}$
Levee earth type 1,057.0

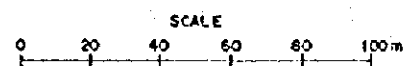
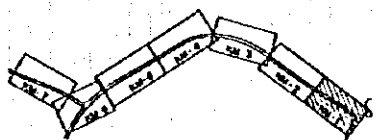
Side ditch 176 m

Side ditch 24 m

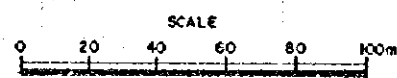
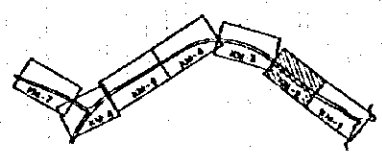
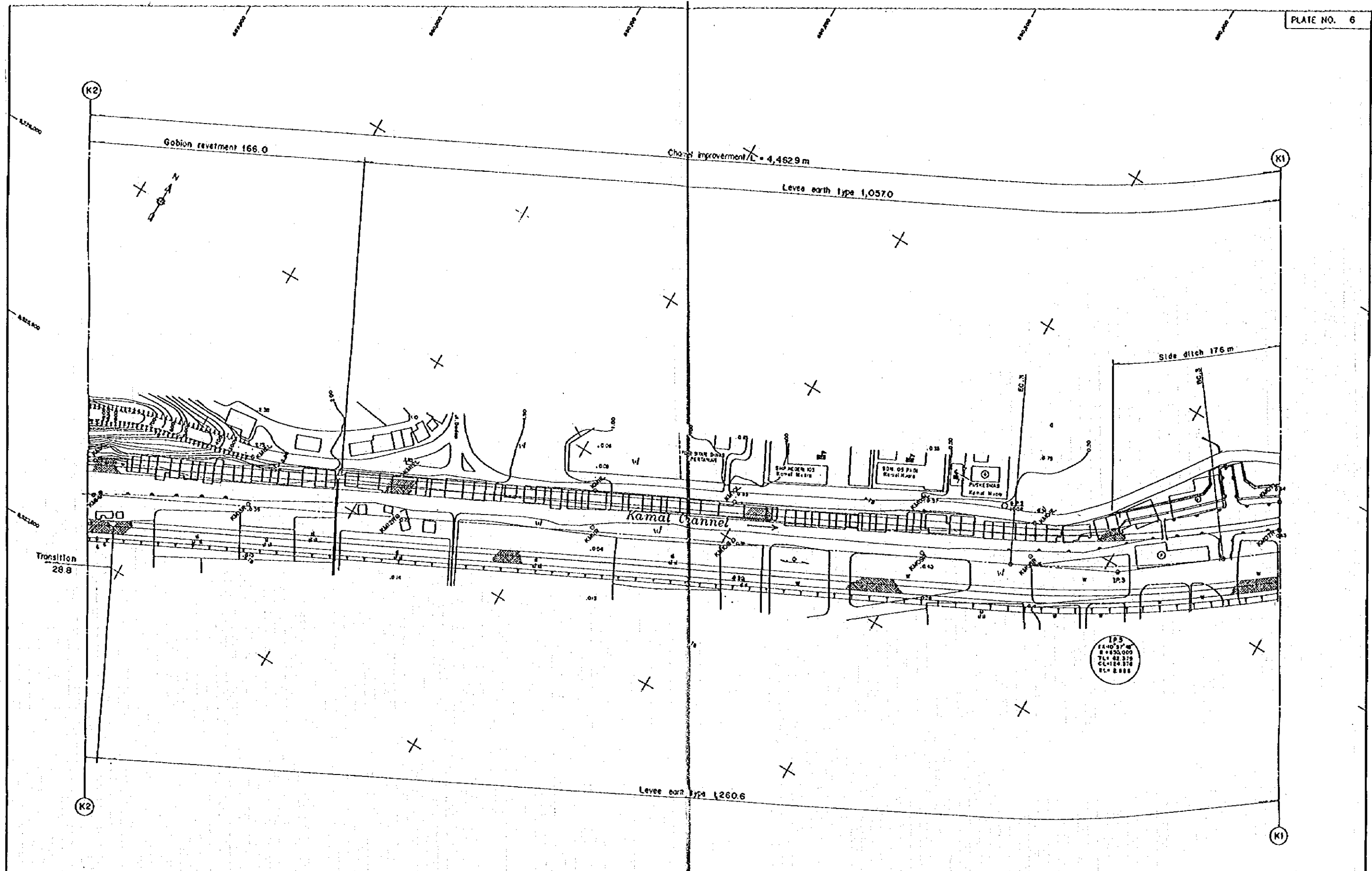
Bridge BKM-1

Kamal Channel

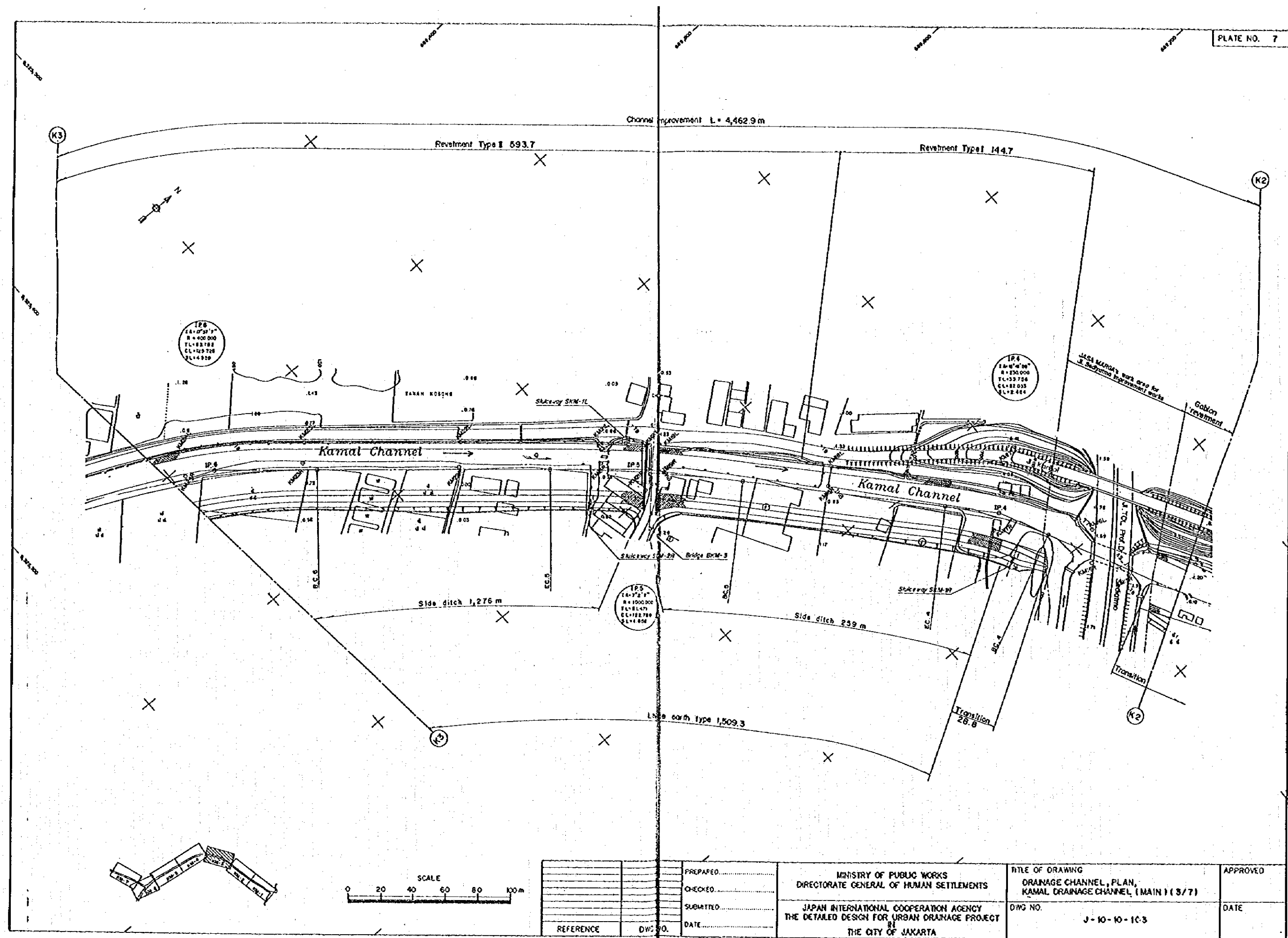
Levee earth type 1,260.6

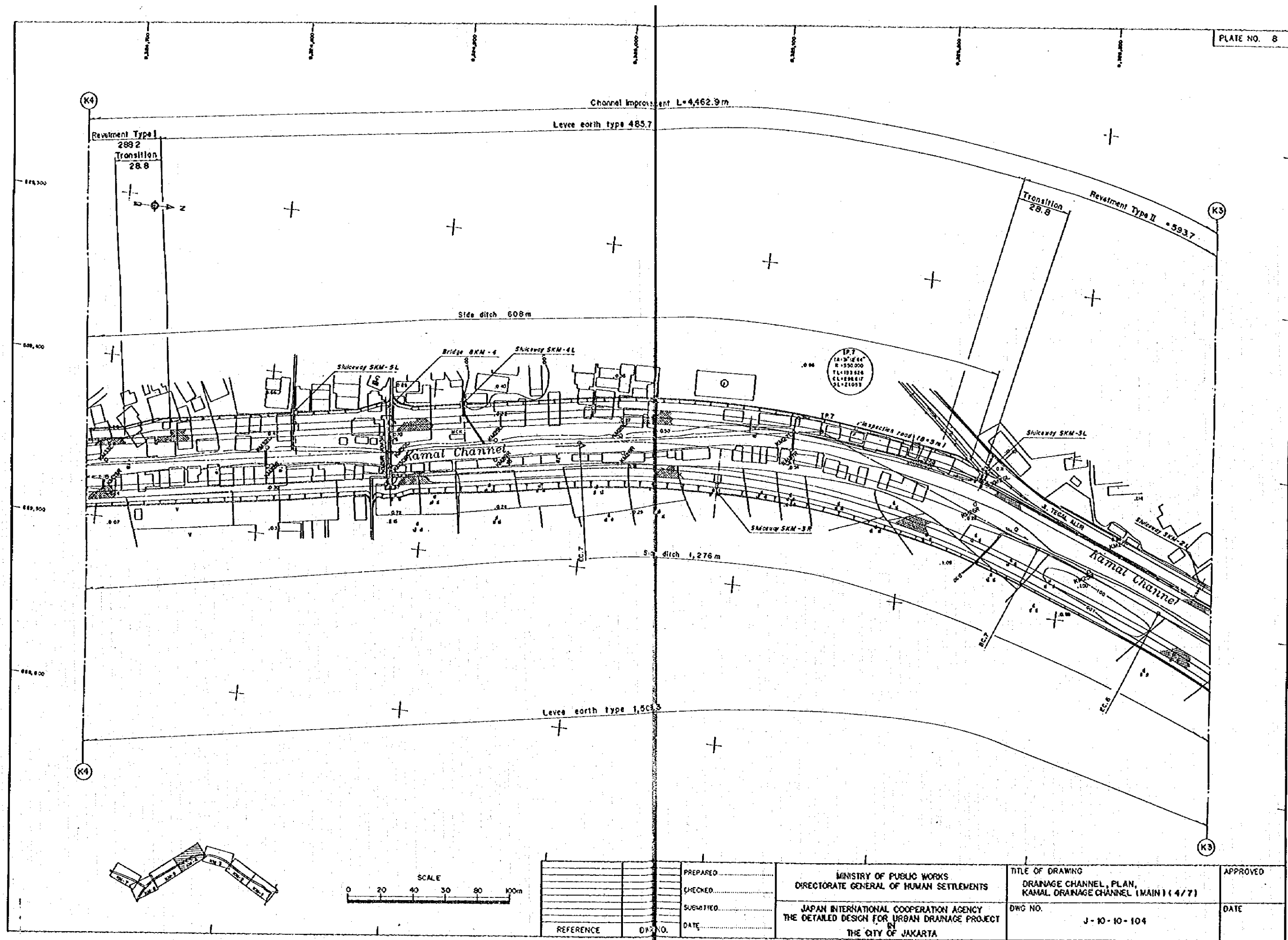


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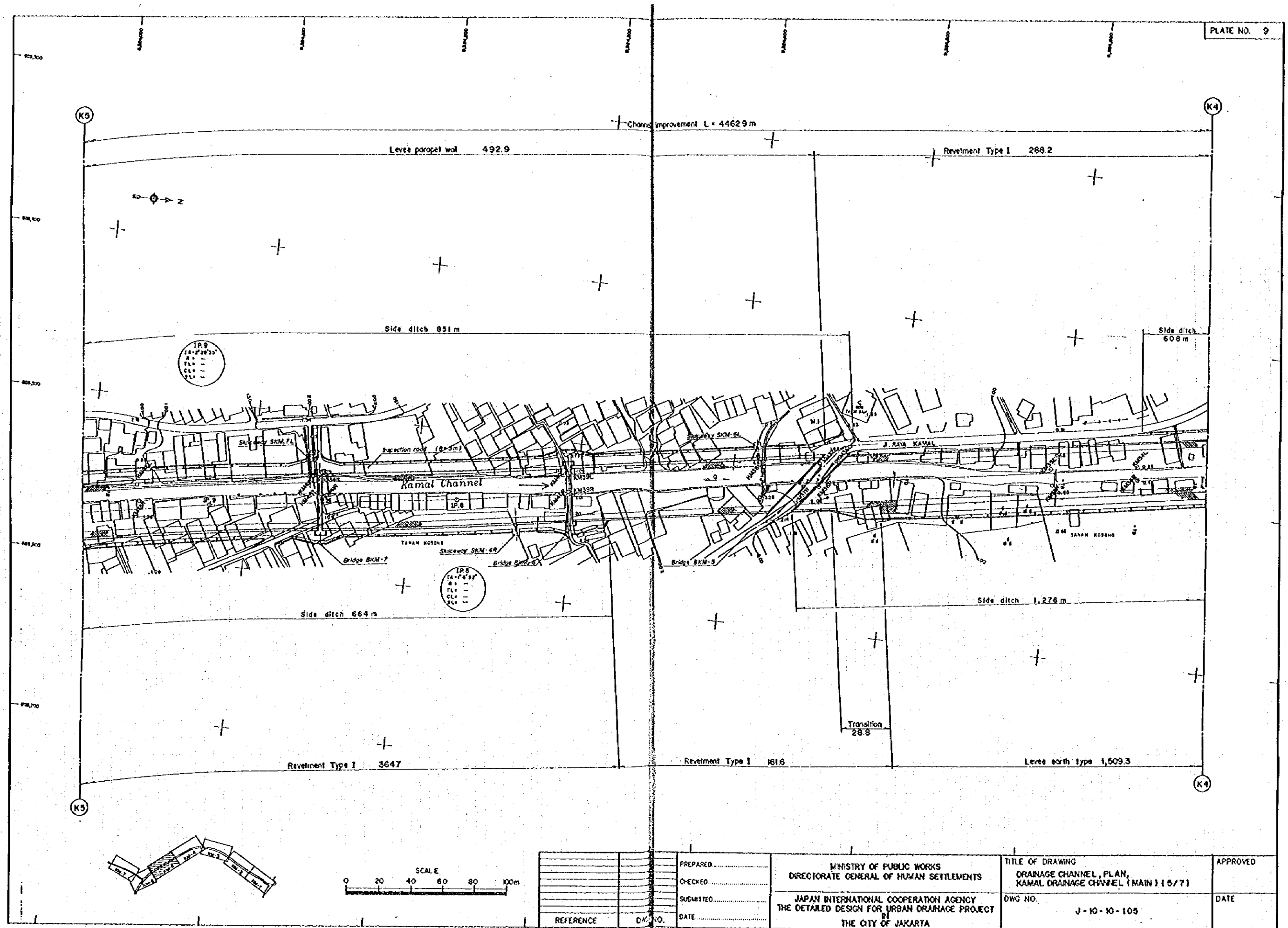


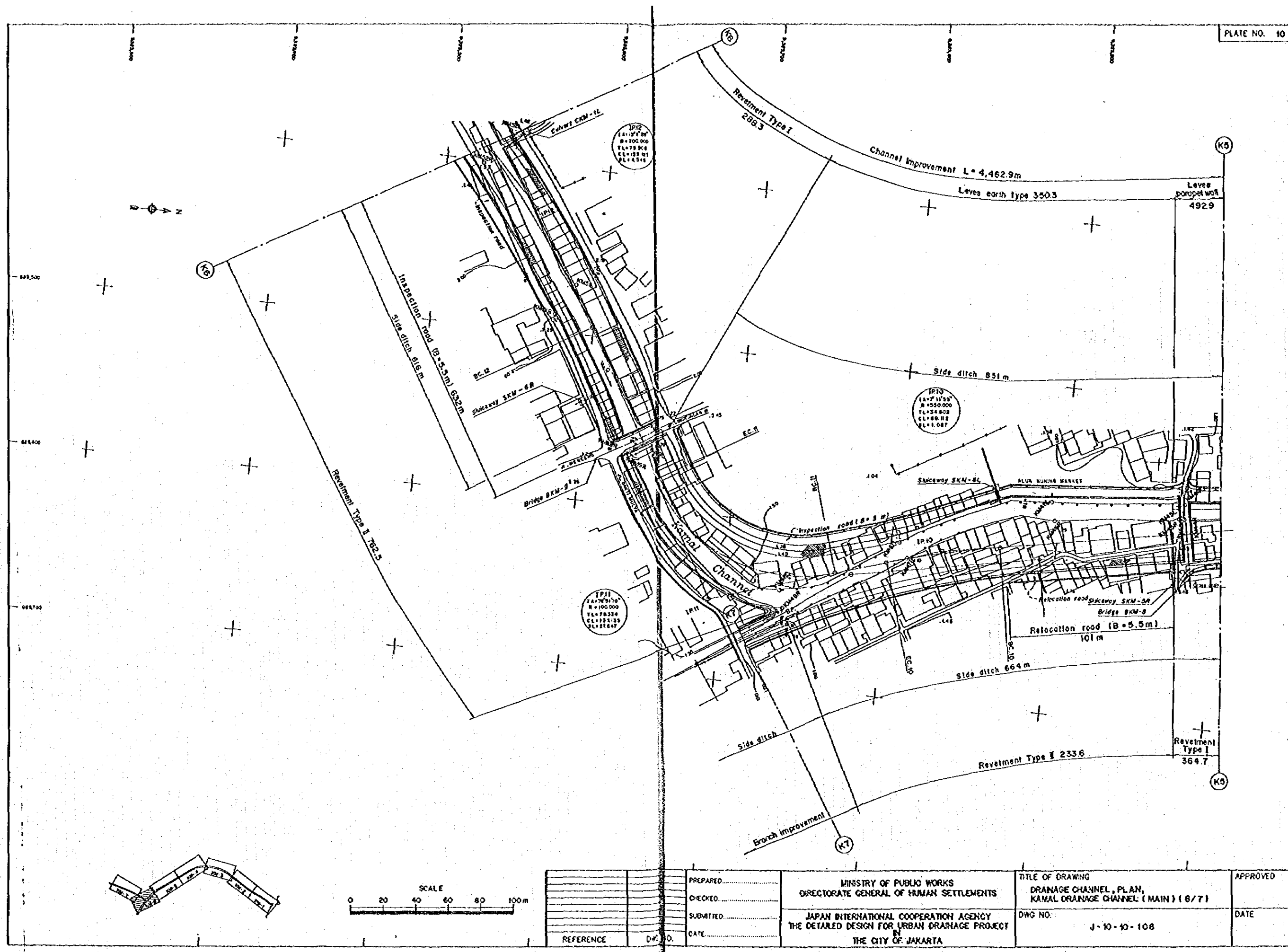
			PREPARED.....	MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF HUMAN SETTLEMENTS	TITLE OF DRAWING DRAINAGE CHANNEL, PLAN, KAMAL DRAINAGE CHANNEL (MAIN) (2/7)	APPROVED
			CHECKED.....			
			SUBMITTED.....		JAPAN INTERNATIONAL COOPERATION AGENCY THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT IN THE CITY OF JAKARTA	DWG NO. J-10-10-102
REFERENCE		NO.	DATE.....			



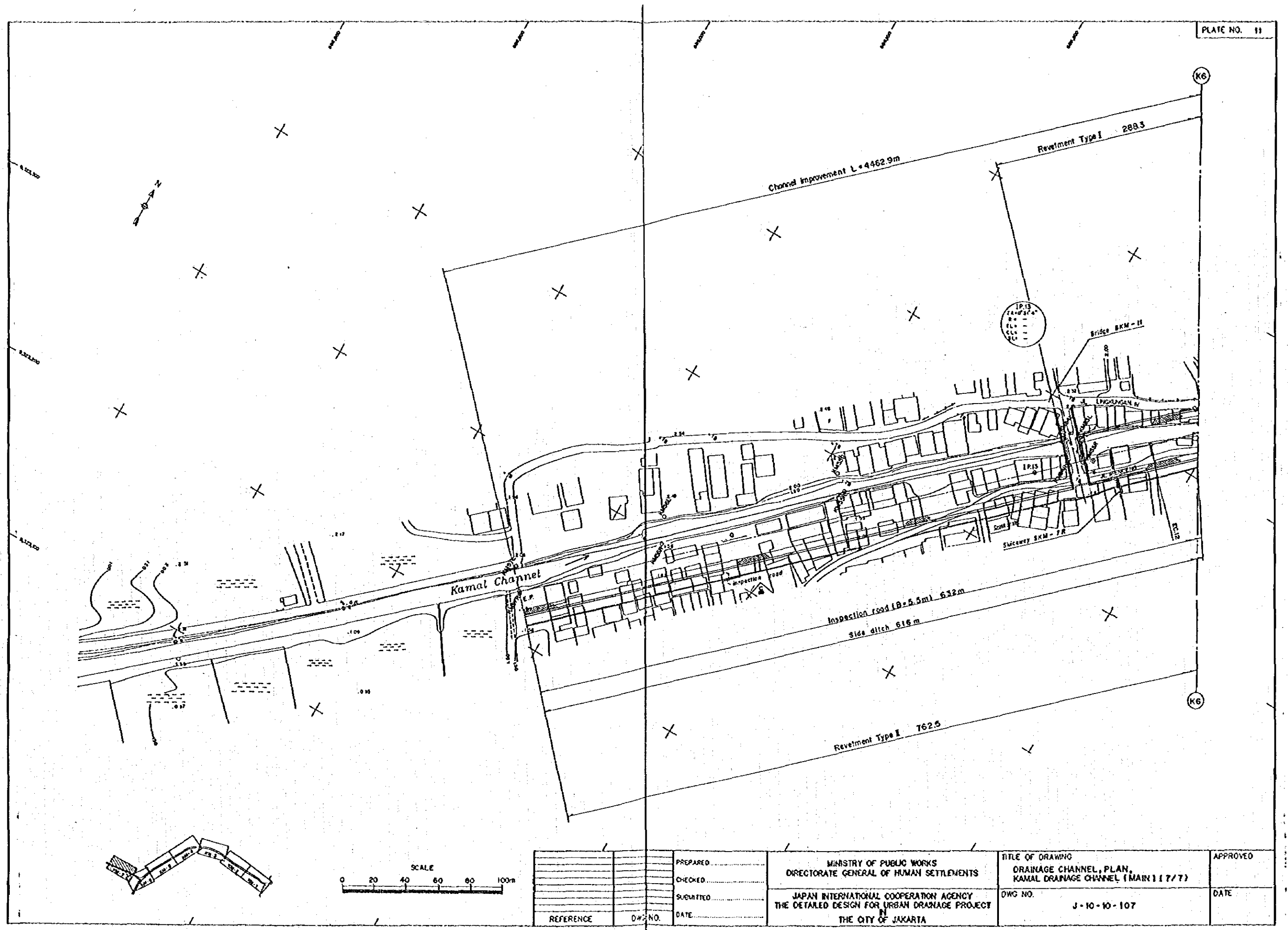


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		CHECKED.....			
		SUBMITTED.....			
		DATE.....			

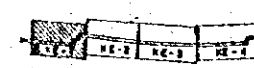
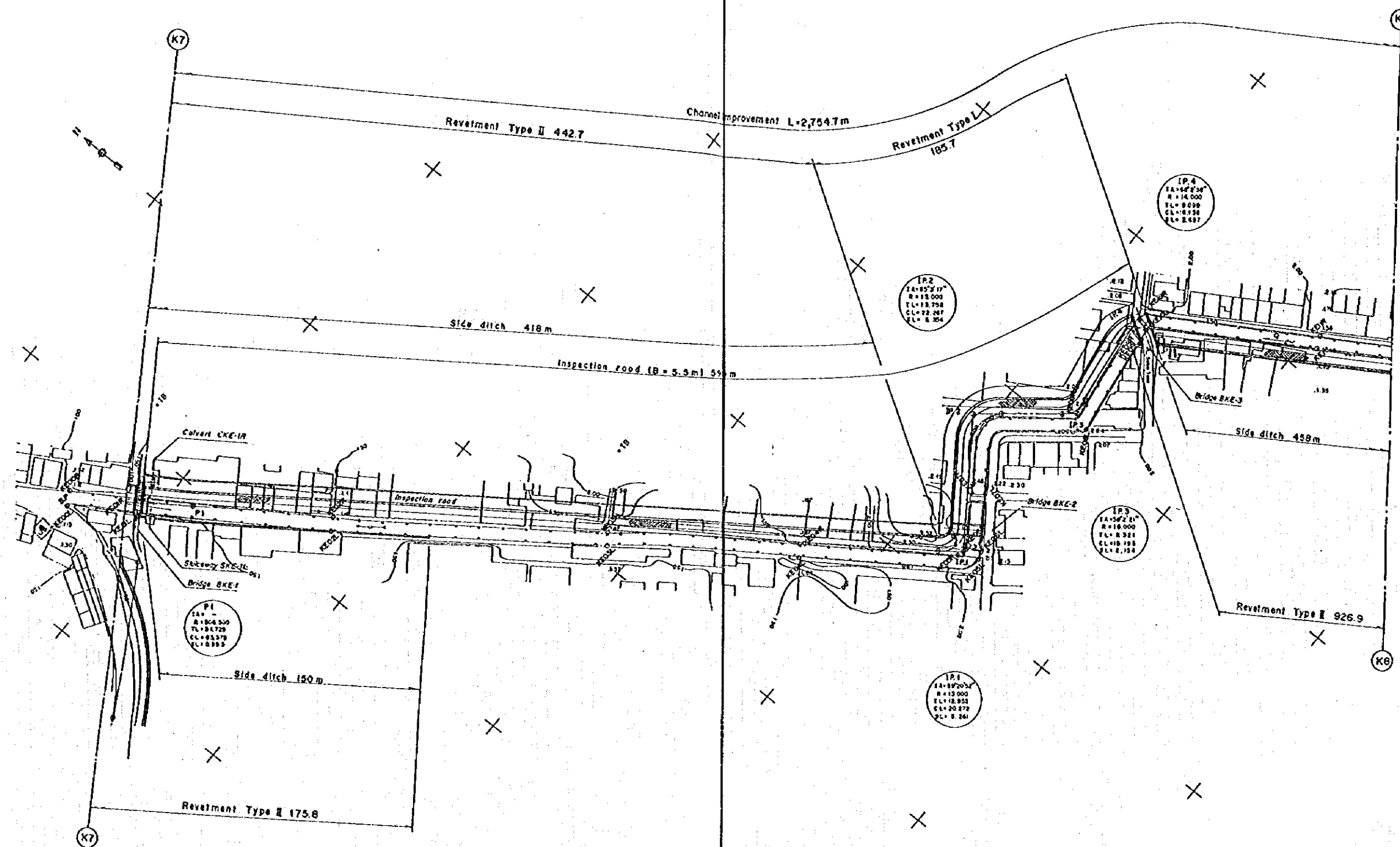




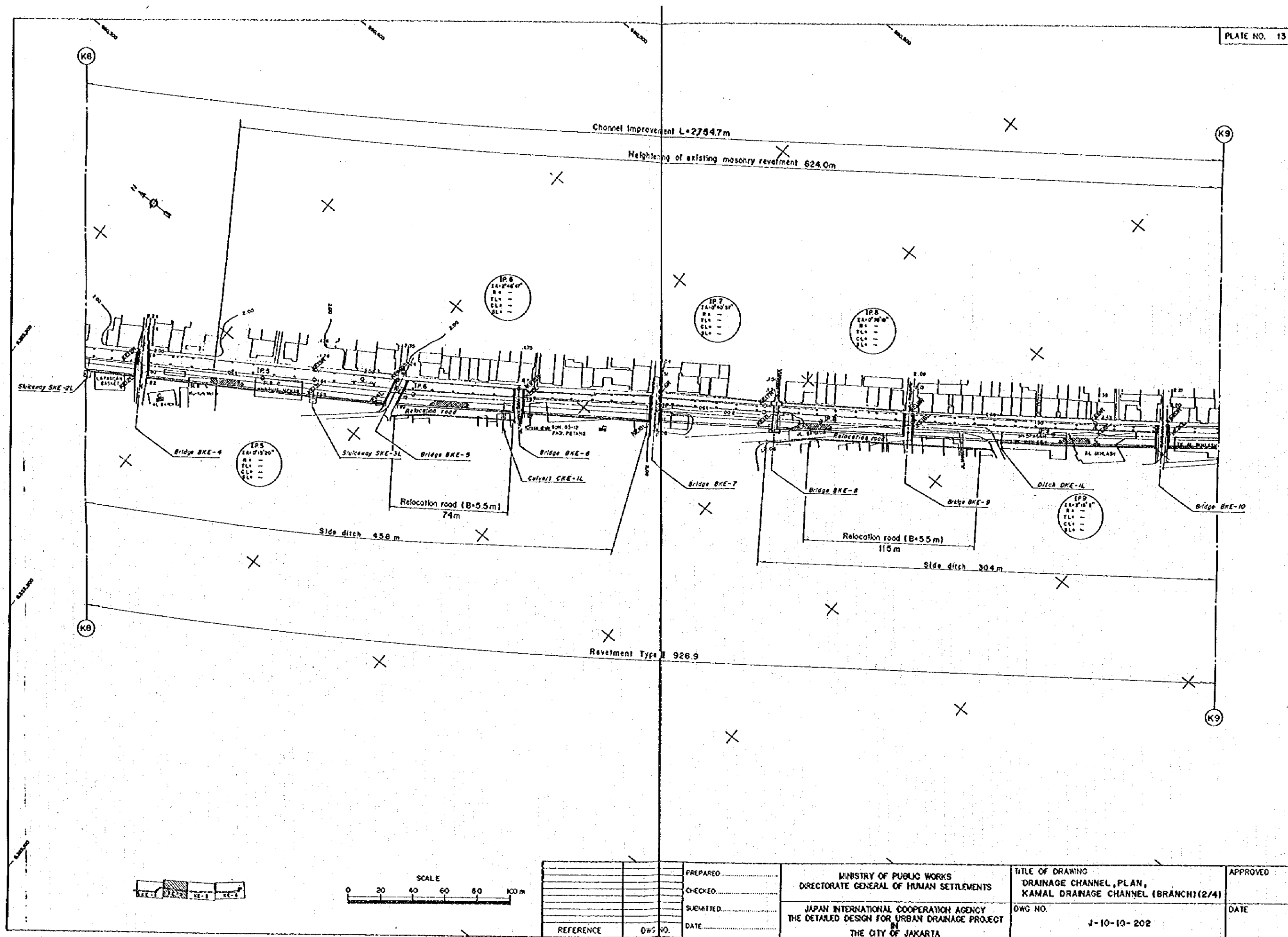
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CHECKED.....	DIRECTORATE GENERAL OF HUMAN SETTLEMENTS	DRAINAGE CHANNEL, PLAN, KANAL DRAINAGE CHANNEL (MAIN) (6/7)	
SUBMITTED.....	JAPAN INTERNATIONAL COOPERATION AGENCY	DWG NO.	DATE
DATE.....	THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT IN THE CITY OF JAKARTA	J - 10 - 10 - 108	
REFERENCE	D.W. NO.		

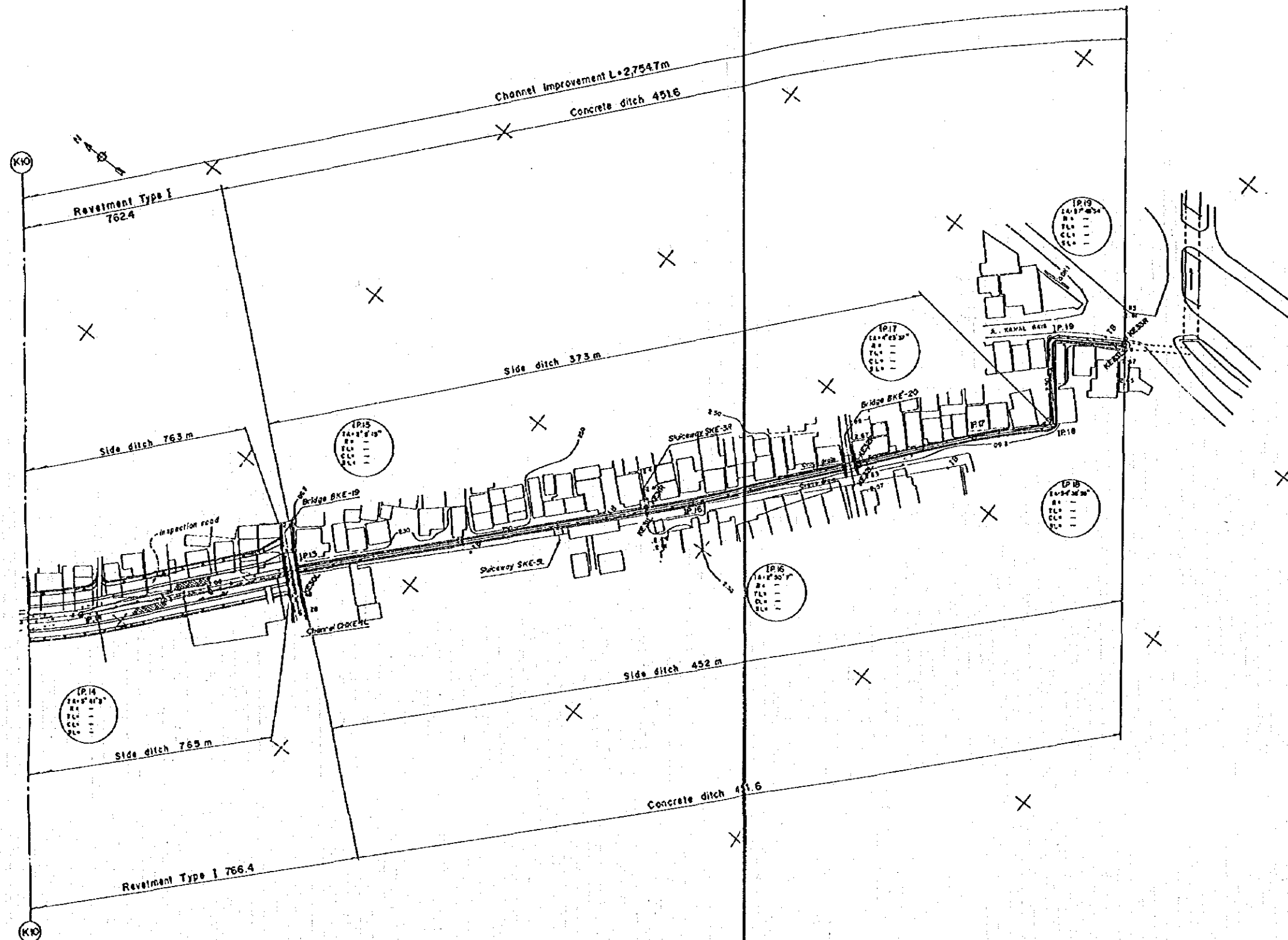


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		CHECKED.....			
		SUBMITTED.....			
REFERENCE	DWG. NO.	DATE.....	JAPAN INTERNATIONAL COOPERATION AGENCY THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT IN THE CITY OF JAKARTA	DWG. NO. J-10-10-107	DATE

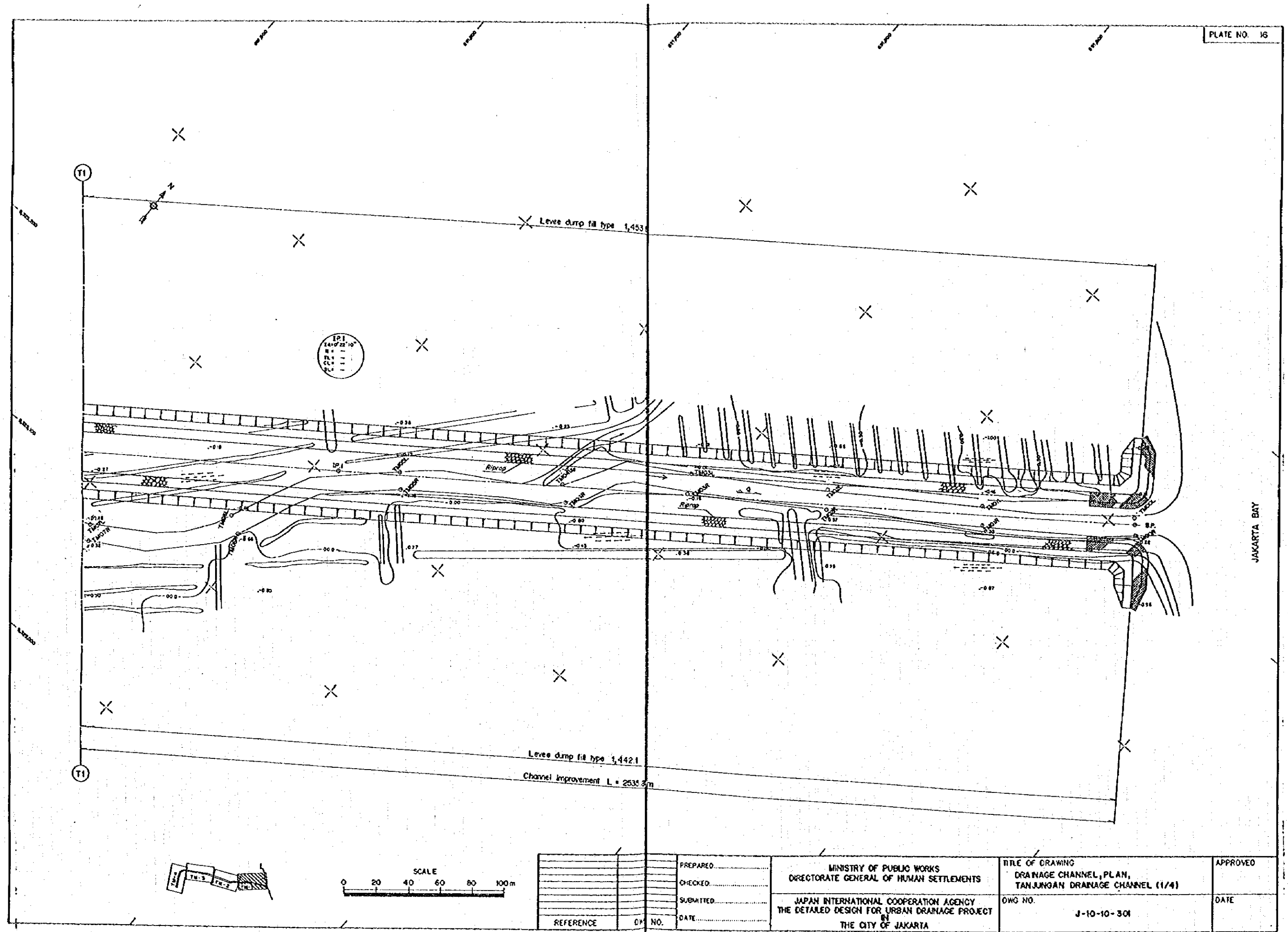


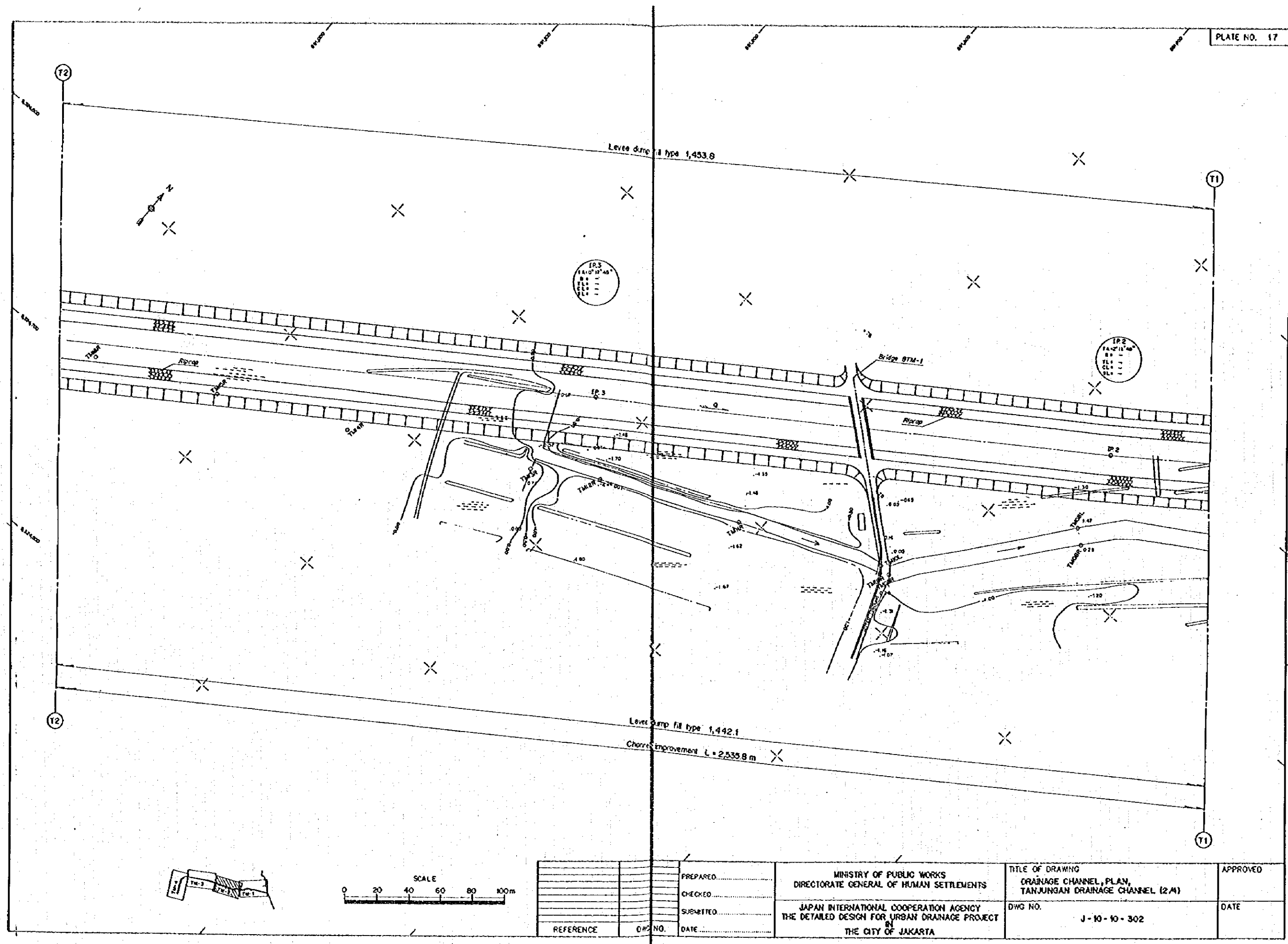
		PREPARED.....	MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF HUMAN SETTLEMENTS	TITLE OF DRAWING DRAINAGE CHANNEL PLAN, KAMAL DRAINAGE CHANNEL (BRANCH) (1/4)	APPROVED
		CHECKED.....			
		SUBMITTED.....			
		DATE.....			
REFERENCE	DATE NO.		JAPAN INTERNATIONAL COOPERATION AGENCY THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT THE CITY OF JAKARTA	DWG NO. J-10-10-201	DATE



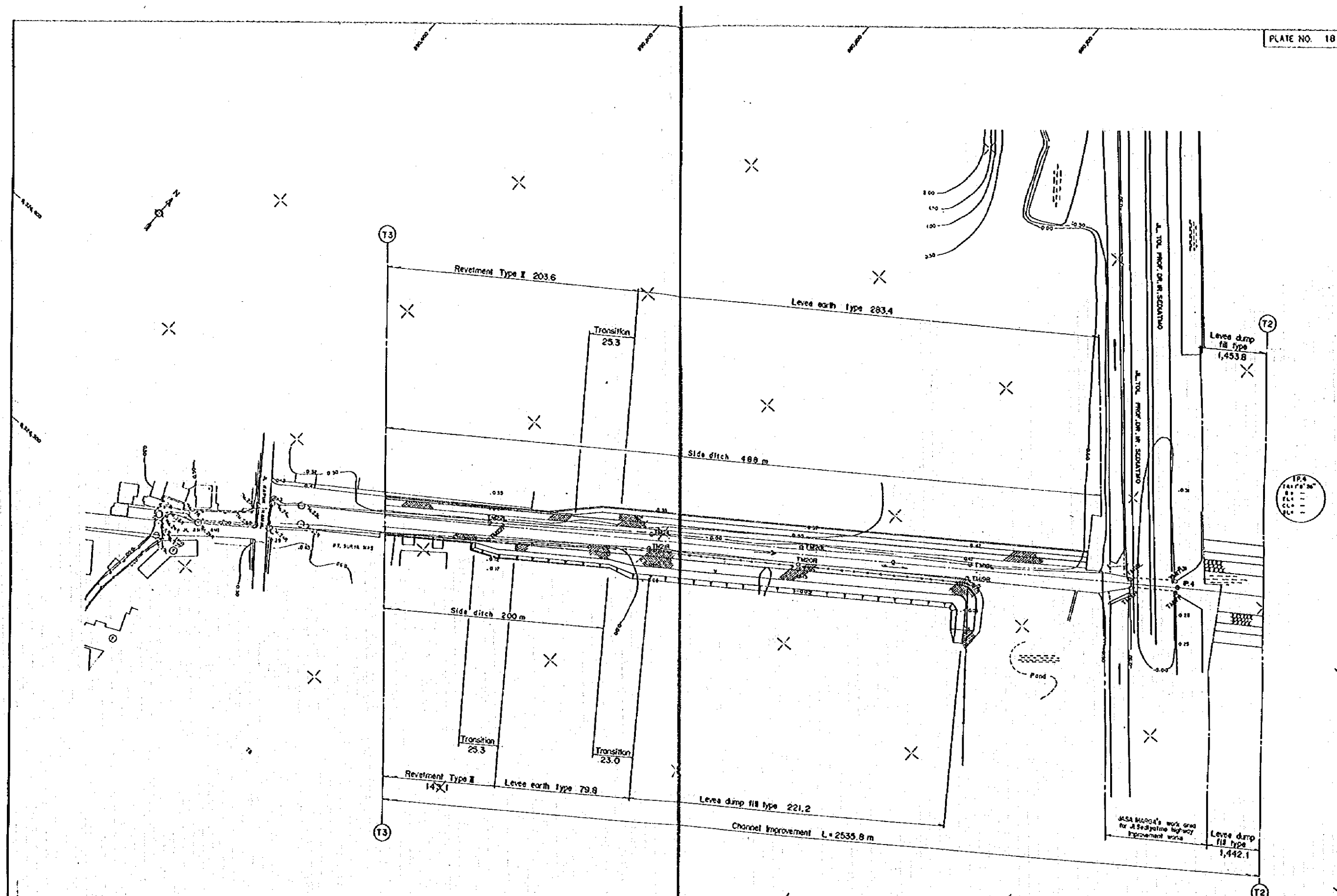


REFERENCE	DWG. NO.	PREPARED.....	MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF HUMAN SETTLEMENTS JAPAN INTERNATIONAL COOPERATION AGENCY THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT THE CITY OF JAKARTA	TITLE OF DRAWING DRAINAGE CHANNEL, PLAN, KAMAL DRAINAGE CHANNEL (BRANCH) (4/4) DWG. NO. J-10-10-204	APPROVED DATE
		CHECKED.....			
		SUBMITTED.....			
		DATE.....			

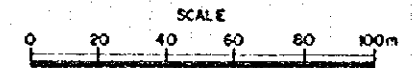
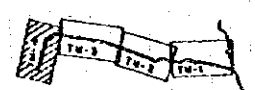
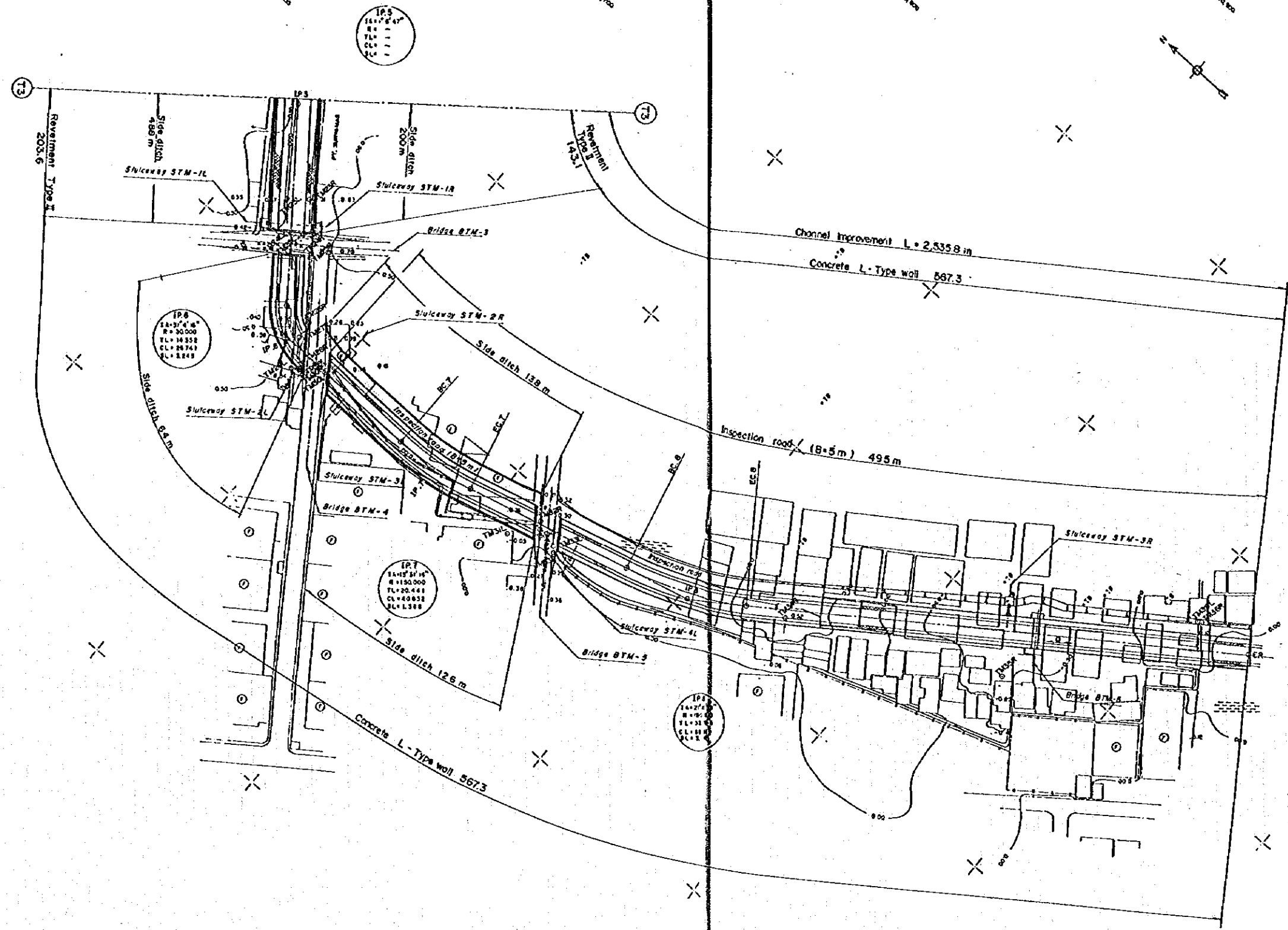




			PREPARED.....	MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF HUMAN SETTLEMENTS	TITLE OF DRAWING DRAINAGE CHANNEL, PLAN, TANJUNGAN DRAINAGE CHANNEL (2/4)	APPROVED
			CHECKED.....			
			SUBMITTED.....			
REFERENCE	DWG NO.	DATE.....		JAPAN INTERNATIONAL COOPERATION AGENCY THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT IN THE CITY OF JAKARTA	DWG NO. J-10-10-302	DATE



		PREPARED.....	MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF HUMAN SETTLEMENTS	TITLE OF DRAWING DRAINAGE CHANNEL, PLAN, TANJUNGAN DRAINAGE CHANNEL, (3/4)	APPROVED	
		CHECKED.....				
		SUBMITTED.....				
REFERENCE	D.K. NO.	DATE.....	JAPAN INTERNATIONAL COOPERATION AGENCY THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT IN THE CITY OF JAKARTA	DWG NO. J-10-10-303	DATE	



		PREPARED.....	MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF HUMAN SETTLEMENTS	TITLE OF DRAWING	APPROVED
		CHECKED.....		DRAINAGE CHANNEL, PLAN, TANJUNGAN DRAINAGE CHANNEL (4/4)	
		SUBMITTED.....			
		DATE.....	JAPAN INTERNATIONAL COOPERATION AGENCY THE DETAILED DESIGN FOR URBAN DRAINAGE PROJECT IN THE CITY OF JAKARTA	DWG NO.	DATE
		REFERENCE	DWG. NO.		J-10-10-304